

a pulsed beam of particles having a time duration less than or equal to 10^{-4} seconds.", and claim 53 calls for "annealing at least one integrated device formed in a semiconductor substrate with a pulsed beam of particles having a duration between 10^{-10} seconds and 10^{-4} seconds."

If can be seen that claim 53 is a subset of claim 1 in that claim 53 includes a minimum time period of " 10^{-10} seconds" which is less than the upper limit of " 10^{-4} seconds" of both claims 1 and 53. The key feature in these claims is that the **annealing** of the **semiconductor substrate** is performed with a **pulsed beam of particles** having a **time duration of less than 10^{-4} seconds**.

The Asakawa patent describes a system for turning a thin amorphous film of silicon on a glass substrate into a crystalline silicon film using a beam of low energy ions or neutral ions. Therefore Asakawa relates to crystallization, or possibly recrystallization, **but not annealing or activation**, which is a different process. In addition, Asakawa makes no mention, or suggestion, as to the time duration that his process requires when exposing his silicon film. A review of the arabic numbers included in the Japanese text of Asakawa does not reveal **any** numbers to a negative power or a number following a decimal point with an initial string of zeros.

Without some mention of an annealing process (which Asakawa does not disclose) that is performed with a particle beam of very short duration time period for exposure (of which Asakawa makes no mention or suggestion), it can not be said that the Applicant's **annealing process** that uses an exposure period **of less than 10^{-4} seconds** is obvious from Asakawa. Therefore the Examiner's rejection of claims 1 and 53 is respectfully traversed.

Since the others claims rejected with claims 1 and 53 are all dependent, directly or indirectly, from either claim 1 or 53, those claims are also patentably distinguishable

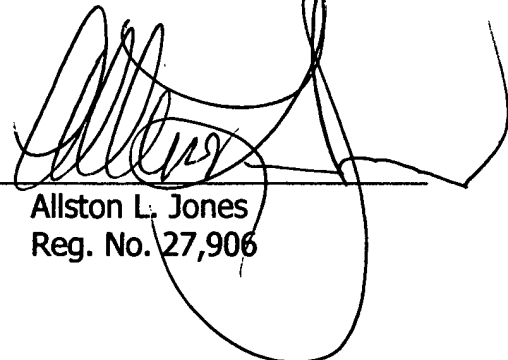
from Asakawa as a result of that dependency and their rejection is also respectfully traversed.

All of the claims are now in condition for allowance.

Favorable action is respectfully requested.

Respectfully submitted,
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